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FOLKESTONE NATURAL HISTORY SOCIETY 1954

Special Edition in honour of the
CONFERENCE OF S.E. UNION OF SCIENTIFIC SOCIETIES
FOLKESTONE, 1955

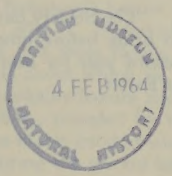
MESSAGE
FROM THE MAYOR OF FOLKESTONE

(Councillor Commander C. E. NEATE, R.N., J.P.)

I am very grateful for the opportunity afforded me to extend a warm welcome to the South Eastern Union of Scientific Societies to Folkestone. Coming, as you do, in the middle of April, there is every hope that you will enjoy good weather and see the arrival of Spring in this very beautiful town. No doubt, however, Folkestone is well known to many of you already.

For my own part, I look forward to meeting you all and I do assure you that every one here will do his or her best to make your stay very enjoyable and to fill you with a resolve to come back again later on. We rely, for our popularity, on those who come and have a happy stay, and then go and tell other people about us.

C. E. NEATE,
Mayor.



PRESIDENT'S NOTE

In this edition of the Society's publication I think it proper to express thanks and appreciation on behalf of the Society as a whole to various groups and individuals whose devotion contributes so much to the standing and usefulness of the Society in the district.

Two or three members make constant excursions to ensure the splendid exhibition of wild flowers and plants which attract so much attention in the Public Library, and these and many other members helped in the exhibition at the Flower Show.

At the request of the Borough, the bird collection in the Museum was re-organised and now offers something of considerable interest and value as a local exhibit.

Various members are not infrequently consulted in their specialist fields and a worth-while article on local Natural History reproduced by permission in this journal, was contributed to the Mayor's book on *Folkestone Past and Present*. Individual sections have had the enormous benefit of enthusiastic leadership. The series of press articles on Walks in the District, although contributed in a private capacity, have been of benefit to the Society and furthered its objects. Many members have spent a good deal of time in committee, and it is hoped that under the new arrangement many more will respond to the opportunity to serve in a capacity congenial to them.

The Society has a proud record of enlightened and unselfish service to bring before others who contemplate membership. May this be a record year for new enrolments, crowned by a memorable Conference at Easter.

GENERAL NOTES

The past season was a busy one for the Society.

There was a slight fall in membership, due to several causes, chiefly the resignations owing to age and infirmity of several of the older members, removal from the district, and pressure of work, giving little time to spare in the evenings. This last point has robbed us of most of the cadets who become increasingly occupied during their last year at school before proceeding to their first jobs, then the call-up takes them away completely. We shall look forward to another generation of cadet members. Meanwhile a large number of new members very nearly replaced the losses.

It was with much regret that we had to lose the services of our efficient and conscientious Hon. Treasurer, Mr. W. J. White, for reasons

of health. It was a great disappointment to the Society, and to him, when Doctor's orders absolutely forbade him to continue in office. We are fortunate in being able to welcome Mr. J. T. Drew as his successor.

The many friends of Mr. John Gilbertson, a former science master at the Harvey Grammar School and past Treasurer of the Society, were grieved to hear of his sudden death at an early age. He was a man of whom a distinguished career could confidently have been predicted and his untimely passing is a great loss to education.

Miss W. Hodges has had to give up the office of Botanical Secretary, for health reasons. She has revived the Botanical Section and we are grateful to her for all her hard work for the Society. Botanical rambles have been well attended. Miss G. Meanwell has kindly taken up the Section Secretaryship.

As lanternist, Mr. A. Howard's keenness and persistence overcame the difficulty of unfamiliarity and the vagaries of a temperamental lantern. We are glad to report that improvements have been made to the lantern which should give excellent projection and make things easier for the lanternist. It was with pleasure that the Society was able to instal a new screen, provided by the John Walton Memorial Fund.

Lectures of unusual interest were Mr. Maxwell Knight's talk on Birds and their Spring Behaviour ; a very clear and informative documentary film, with a talk on the Coalfields of Southern England, by Mr. A. Maries of the National Coal Board ; Mr. L. Thompson's lecture on Locust Control, accompanied by live locusts ; Mr. T. Sedgwick's admirable film of his travels in America, showing just those details of the countryside and of the lives of ordinary people about which we so much wanted to know ; and Professor Allen's remarkable lecture about the recent discovery of the vegetable origin of chalk, revealed by the electronic microscope. The attendance, which was not as good as usual at the beginning of the season, amply improved during the second half, even during the bitterly cold spell in February, and on several occasions we had a full house, notably during the joint meeting with the Historical Association, when Mr. R. Goodsall showed some very fine slides on " Colour in Kent in Nature and History."

The exhibits at the Conversazione were rather fewer than last year, but were pronounced to be superior in quality and easier to study. The visitors certainly increased in quantity — better to say, in numbers, perhaps, to avoid misunderstanding. Mrs. D. Harris again gave her spinning demonstration in response to many requests. Among the visitors were the Mayor and Mayoress and their daughter who stayed a pleasantly long time.

The Society's outstanding achievement was the Everest Lecture arranged for the public with the co-operation of the town and the Royal Geographical Society. The Leas Cliff Hall was packed to hear George

Lowe, the official photographer, and see his wonderful coloured slides. The Lecturer was introduced by the Mayor and with him on the platform were our President and Captain John Noel, official photographer to the 1924 expedition, whom we all know.

Another interesting event was a joint meeting arranged at Wye College between the Society and Wye College Natural History Club. Members of both were invited to show and discuss slides of rare local plants — a very worth while and profitable meeting.

An important summer fixture was the Grass Foray arranged by Mr. C. Hubbard of Kew in place of a lecture which he had to cancel. About 20 members were able to participate in this most enjoyable and instructive expedition, including a visitor who came over from Whitstable. Mr. Hubbard's new book on Grasses, just published by Penguin Books, Ltd., should be secured without delay.

The Flower Show was held for three days this year and in consequence was looked forward to with some trepidation, but the sunless weather, so unkind to holiday makers and gardeners, enabled our exhibits to stand up remarkably well. Throughout the Show the stewards were kept busy answering questions and the Society's thanks are due to all those who helped to make the exhibit a success.

We have had more enquiries than usual from visitors and visiting botanists about local wild flowers and Mrs. Walton's telephone has been working overtime. Mrs. Walton also arranged a botanical outing to Dungeness for physical training students from Dartford ; other fixtures for them had to be cancelled owing to the weather.

The exhibits jars at the Museum will be replaced as soon as it is possible to get the right kind at a reasonable price. Members of the Society have been asked to examine the herbaria and re-arrange the bird exhibits at the Museum. This work is in progress. Sometime ago Mr. Morley sorted and set out some of the entomological specimens.

The rules of the Society are revised periodically and the latest revision was issued to members last season. An innovation is the setting up of sub-committees to deal with various aspects of the Society's business. It is hoped that this will broaden the basis of responsibility, increase interest, and enable the business to be more effectively carried out.

The Secretary and a number of our members attended the S.E. Union of Scientific Societies' Congress at Maidstone in June, and Mrs. Walton, as delegate of the Society, attended the British Association Meeting at Oxford in September.

The Secretary.

THE NATURAL HISTORY OF FOLKESTONE

CONTRIBUTED BY

FOLKESTONE NATURAL HISTORY SOCIETY

MUCH of the charm of Folkestone lies in its attractive physical setting, including such distinctive features as the sandstone cliffs of the Leas and the confused terrain of the Warren landslip, with the steep chalk scarp breaking the skyline behind the town as a dominant backcloth to the scene. To appreciate fully the beauty and variety of the many landforms it is essential to examine the basic *geology* of the area and the way in which it fits into a broad structural pattern.

As layers of Cretaceous sedimentary rocks in southeast England were folded into an anticline or arch, marine action removed the crest of the dome to expose bands of older underlying rocks (Diag. 1). The relief as we know it today, that of an eroded core surrounded by the inward facing scarps of the Chalk Downs, is a direct result of the varying powers of these rocks to resist continued sculpturing by rain and rivers. When the Strait of Dover later cut across one end of this denuded dome, the coastline of southeast Kent and that of France, which can be seen from Folkestone, became in effect neat cross-sections of this fascinating geological region.

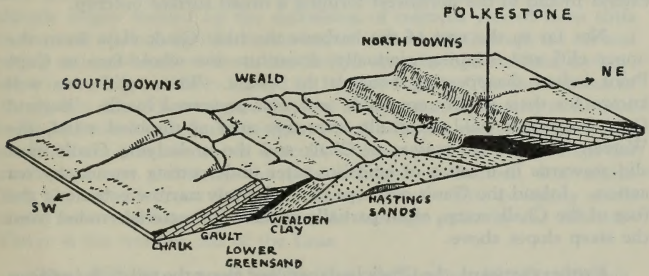


Diagram 1

Clearly visible, from west to east, are a series of strata each dipping in turn beneath younger beds forming the northern slopes of the Wealden dome. From Lympne towards Dover, if we take the old cliff line and temporarily turn our backs on the more recently added Levels of Romney Marsh, we can see the Wealden Clay, the Lower Greensand, geologically divided in this area into the Hythe, Sandgate and Folkestone Beds, the bluish clay of the Gault, and finally, most resistant of all, the towering cliffs of Chalk (Diag. 2).

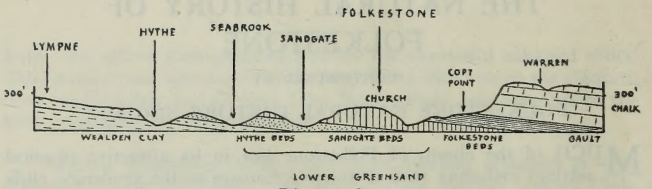


Diagram 2

The blue grey Wealden Clay, eroded throughout much of the Weald into a broad valley, disappears beneath a narrow clay belt and the first of the major Lower Greensand Beds at Hythe. The sandstones of the Hythe Beds, which give rise to the main hills behind Hythe and most of the high land along to Seabrook, include bands of sandy limestone, well known as a building stone under the name of Kentish Rag. Next in sequence, the dark sandy clays of the Sandgate Beds continue the gentle dip to the northeast and, after supporting Sandgate itself, can be examined in much of the undercliff of the Leas. The town of Folkestone rests almost completely on the Folkestone Beds, rather soft, fine, light brown or greenish sands, sometimes with intervening bands of calcareous sandstone. These normally form most of the Leas cliff face and are well exposed at East Cliff, backing the beach and promenade. These youngest Lower Greensand strata, ninety feet thick in this area, extend inland to the northwest forming a broad surface outcrop.

Not far to the east of the harbour the blue Gault clays form the upper cliff and, dipping gradually, constitute the whole face at Copt Point before disappearing beneath the Chalk. These cliffs are well known for their readily accessible and well preserved fossils. Beyond Copt Point is a wild scenically attractive area of tumbled relief, the Warren, where huge masses of Chalk and the underlying Gault have slid seawards in a series of landslips after undercutting erosion by sea action. Inland the Gault outcrops in a relatively narrow belt along the foot of the Chalk scarp, often partially covered by material eroded from the steep slopes above.

Farther eastward, the Chalk beds exposed along the tall cliffs between Folkestone and Dover are mostly of the Lower Series, very grey when compared with the white chalks of the Upper Series which appear in the cliffs east of Dover. These beds eventually dip as a syncline beneath the alluvium deposited since Roman times in Wantsum Channel, before reappearing in the Isle of Thanet.

It is only recently that the origin of the Chalk has been determined. Many fossil remains of fish are visible to the naked eye, but the bulk of the material defied examination even by the most powerful microscope. Now the electron microscope has revealed that at least four-fifths of chalk is of vegetable origin. Plants resembling microscopic footballs

lived in countless millions in the upper part of a clear, warm sea. As they died, their limey framework fell to pieces somewhat resembling the patches of a football case. Many broke into individual crystals. In the course of countless ages these plant remains formed layers of chalk on the sea floor, which were later raised by earth movements and worn by sea and weather into the hills and cliffs we see today.

The scenery of the chalk countryside inland is in its way as distinctive as the renowned White Cliffs overlooking the Dover Strait. While the Gault has been worn into the long Vale of Holmesdale, the porous chalk has resisted erosion and the North Downs present a steep scarp face to the southwest and to the heart of the Weald.

Following the original dome structure, early rivers of this area drained away to the north and in so doing cut valleys in the gentle dip slope. Some of these have cut deeply to break through the scarp face, as the Stour or Elham valleys, while others like that in which Alkham nestles are much less advanced, but all have the attractive softly rounded outlines of chalk scenery.

Inevitably, however, the shoreline is a major attraction both for the holidaymaker and for the geologist and physical geographer who recognise innumerable features of interest. To the west lies that incomparably individual area, that fifth quarter of the globe, Romney Marsh, where man continues the battle to protect land from the sea. Behind the long shingle ridges formed by the deposition of material eroded from cliffs to the west of Rye, the Marsh has been formed both through the natural silting action of such rivers as the Rother and through artificial reclamation or inning, probably started in Roman times. The explanation of the sharply pointed or cuspate shape of Dungeness is generally attributed to the fact that owing to the proximity of the French coast no large waves reach it from a southeasterly quarter, whereas powerful waves from the south-southwest throw up the pebble ridges of Camber, and others from the east-northeast shape the eastern shore. The sweeping curve of the latter can best be seen from the vantage point by the Martello Tower at the western end of the Leas.

The solidly constructed wall backing the broad sands at Dymchurch, the massive concrete sea defences between Hythe and Sandgate, and the regularly spaced groynes designed to prevent the steady eastward movement of beach material resulting from the prevalent set of the tide, all show that the sea is a powerful complicating influence along this coast. East of the Leas, Folkestone harbour pier has halted the longshore drift and as a result a large area of shingle has accumulated near the bathing pool, while beyond are the East Cliff sands, Warren, and chalk cliffs already described.

From this brief survey it should be abundantly clear how varied is the physical background of this region, a variety which is reflected by

all aspects of natural life. The area is particularly rich in *wild plants*, as each of the widely differing types of soil has its own characteristic vegetation. Thus, near Hougham a peculiar outcrop of intensely acid clay gives rise to a patch of acid woodland similar to parts of the Sussex Weald near Ashdown Forest, and a hydrangea nursery has been established there, as in this soil the flowers naturally assume the blue colouring that has to be artifically induced elsewhere. In places the iron bearing red sands of the Lenham beds come to the surface, and acid loving plants appear incongruously in the midst of the chalk. Here and there the Lenham Sands spill over the cliffs into the Warren, and where they are deposited quantities of Hart's Tongue Ferns, with Nettle-leaved Bellflower and Stinking Iris with conspicuous red seeds, live side by side with typical chalk flora.

In summer the short turf of the bare treeless chalk downs is aromatic with wild Thyme, and gay with small brilliant flowers, Rock Rose, Milkwort, Marjoram, Yellow Wort and many others, but the chief treasures of the chalk are the wild Orchids. Botanists from all over the country come to study and photograph them. Over 30 species have been recorded in the district. Bee and Spider, Fragrant and Pyramidal Orchids, and several uncommon species can be found on the chalk. In sheltered places in the folds of the downs a dense scrub forms where Sweet Briar grows, with Wayfaring Tree and Spindleberry and ropes of Old Man's Beard.

Though subject to strong winds, the climate of Folkestone is comparatively mild, and it is not uncommon for Primroses to be blooming in our woods before Christmas. Woods in this part of Kent are periodically clear felled to obtain Sweet Chestnut spiles for fencing, hop poles, and pea and bean sticks. The systematic cutting keeps down the undergrowth and the few large trees left standing, mainly oak and beech, cast a light shade that enables all manner of spring flowers to carpet the floor of the woods. The plant hunter, Kingdon Ward, who has travelled so extensively in the Himalayas, once said that nothing that he had seen there could equal Primroses in a Kent Hazel copse. Woods on the chalk are remarkable for several interesting plants with green flowers, including Herb Paris and Green Hellebore or Bear's Foot. Here also is the true Deadly Nightshade with drooping purplish bells followed by large black berries.

The woodlands have their share of Orchids such as the Fly and Butterfly. Lilies of the Valley and Wild Columbine grow in woods in sandy districts, where are the State Forests, plantations of conifers, largely grown for pit props for the Kent coalfield, and also plantings of hardwoods. Covert Wood, above Elham Valley, is especially rich in mosses.

The seashore has a flora of considerable beauty and variety, according to the character of the shore line. On sand dunes and shingle, golden Horned Poppy with grey frilled leaves, Sea Convolvulus, Thrift or Sea

The Warren [*Halksworth Wheeler, Folkestone*

Pink, mauve Sea Rocket, Yellow Stonecrop, and deep blue Vipers Bugloss give drifts of colour in summer. On the chalk cliffs are Rock Samphire, Sea Lavender, Valerian and Wild Sea Cabbage, the ancestor of our garden varieties, with other treasures, some rare, some more common.

Proximity to the Continent probably explains why curious alien weeds sometimes appear among farm crops and along road sides, some to disappear after a season, others to become established, so that revisions of local flora lists always include several hitherto unrecorded species. Over 1,000 different kinds of wild plants have been listed, some peculiar to this part of East Kent, so the district is a happy hunting ground for botanists.

Waterside plants will be found in plenty along the Military Canal and in the dykes and streams of Romney Marsh. Dungeness, approaching beauty for a short time at midsummer, has a unique flora of shingle beds and marsh around the fresh water pits which are a curious feature of this usually grim and windswept region. The bogs at Hothfield Common near Ashford, are remarkable as the only area in southeast England where can be found Bog Asphodel, Bog Cotton, Marsh St. Johns Wort and other bog plants ordinarily associated with high moorland in the West and North country. The area has been scheduled as one of special scientific interest.

In order to understand the *bird life* of this corner of Kent, it must be appreciated that, as the varied nature of the countryside accounts

for a wide range of plant life, so too does this diversity of landscape account for a pattern of bird life which varies in a similarly interesting manner. Mention has already been made of the Warren, Dungeness and Romney Marsh and these areas, together with the downland, foreshore and cliffs, provide an agreeable habitat for a large number of species of British birds.

In addition to this diversity of landscape, the position of the area in relation to the continent and to migration routes must also be considered. Folkestone lies along one of the main migration routes of northwest Europe and, besides witnessing the arrival and departure of many British birds on their various journeys, it also lies on a popular escape route of hordes of hungry pigeons which leave the continent in hard weather and feed in our fields within the few short hours of a winter's afternoon. However, this is a disadvantage which is suffered only occasionally and is more than compensated for by the advantages of position and terrain.

With regard to actual numbers of bird species resident in the district, over 56 have been recorded. These numbers are increased about a score by summer visitors, and there is a normal arrival in the winter of at least a further 24 species which spend the season with us. Another half dozen or so are but passage migrants.

Not all the summer visitors stay in the area, though many of them do Together with our resident birds, they make up a total of at least 70 species which have been known to breed in this district.

The figures given are approximate but understate rather than overstate the actual position. To present the picture in another way it may be said that a bird watcher doing the normal amount of field work, could in the full cycle of a year, record anything between 110 and 140 different species of birds in this district. Even the higher figure of 140 does not cover all the possibilities, for the Dungeness Bird Observatory (D.B.O.) which was established in the summer of 1952 has, in less than two years, recorded over 160 species.

Rarities like the bluethroat, barred warbler and hoopoe are recorded occasionally, buzzards and black redstarts are seen more often than they were a few years ago; but the rook and the heron, the gulls and jackdaws, together with the finches, thrushes and warblers are among those which form a permanent part of the bird population of Folkestone.

For over a hundred years the coastal area from Sandwich to Dungeness has, at any rate in parts, been very well known to entomologists. There is no reason to doubt that the various orders of insects are well represented here, but the only order of which adequate records are available is that of those *butterflies and moths* which are generally known as the Macrolepidoptera. In regard to these, Dover came into prominence some years before Folkestone, but our town as it grew in size and import-

ance about the middle of the last century attracted among its visitors several keen naturalists who made some surprising discoveries, including a number of species until then unknown in this country.

The first Folkestone list of butterflies and moths appeared in English's Guide which was published in 1859. It was drawn up by S. J. Mackie and contained the names of fourteen rarities or supposed rarities. In 1870 the Folkestone Natural History Society published Dr. Knaggs's famous list. This contained the names of 326 species together with much interesting detail from which it may be gathered that the collectors of that time did most of their collecting in the Warren, along the Lower Sandgate Road, and on the East Downs.

H. Ulyett, Hon. Secretary to the Natural History Society, published in 1880 his " Rambles of a Naturalist," in which he also included a list of butterflies and moths. This was much longer than Knaggs's list, for Ulyett had the help of several resident entomologists, including two professionals, who had been very active in exploring the whole district.

Since then well over a hundred names have been added to his list, 20 in the last four years, but these represent a gross rather than a net gain, for of the 531 species in that list 48 have not been observed during the past 30 years. Ten of the 48 may be regarded as extinct, 6 as casual visitors or of doubtful authenticity, 8 as likely to reappear in the near or remote future, and 24 as still here waiting for some enterprising collector to locate.

It will be gathered that the range of species is very large but is far from being static. A district which includes woods with deciduous and coniferous trees, chalk downs, cliffs sheltering warm and sunny hollows, marshes, sand dunes, and areas of silt or shingle, each with its appropriate vegetation, will naturally harbour a rich and varied fauna. Among species which occur or have occurred in this district, but only in parts of it, may be mentioned the Iron Prominent and the Bordered White in the woods; the beautiful Adonis and Chalk-hill Blues which add charm to the Downs; the Fiery Clearwing, discovered in the Warren in 1856, where the Subangled Wave was discovered in 1859, and the Rest-harrow in 1867; the Glanville Fritillary which flourished below the Leas a century ago and Bond's Wainscot which was discovered there in 1858 and is still to be found in its old haunts; the Large Wainscot, common in the Dymchurch Marshes; the Shore Wainscot which frequents the sandhills near Littlestone; the Brown-tail, locally abundant on Romney Marsh; and the Grass Emerald found in numbers on the Dungeness shingle.

Yet our insect life in some respects changes in character almost year by year. It has been suggested that in the glacial era the land which then occupied part of what is now the North Sea at one time had a climate and vegetation somewhat similar to those of Finland today and

that insects from this land penetrated into various parts of England. Subsequent changes in climate would lead to their confinement to restricted localities or to their disappearance, just as heather and juniper now seem to be dying out in this part of the world. On the other hand there seems to be a tendency for some species to invade the district from the southwest, for a year or two, for a longer period, or even permanently.

Of special importance is the nearness of this part of Kent to the coast of France. The Channel is, from the geologists' point of view, a modern institution, and for a long period the insect world must have found here the front door of England. Even now twenty odd miles of sea present no great obstacle to strong fliers, and their weaker brethren are often carried over by the wind. Hence we have many visitors from abroad, some originating from as far away as Southern Europe, North Africa, or the Levant. Some, for instance the Red Admiral, the Painted Lady, and the Clouded Yellow butterflies, are easily recognised as visitors, for they rarely or never survive the winter; some manage to breed here and linger for three or four years; and some, such as Vine's Rustic, the White-banded Carpet, and the Yarrow Pug, seem to have settled down permanently in quite recent years. Apart from such migrants it is reasonable to suppose that there is a regular interchange between the two countries of more ordinary species.*

THE DOWNS: A LOCAL WALK

WALKING DISTANCE : 4 MILES

For a splendid walk along the Downs which overlook Folkestone from the north, it is best first to take the No. 90 bus from Bouverie Square up the long ascent of Dover Hill, the road winding up the steep scarp face of the Chalk, to the "Valiant Sailor." Opposite this inn, Crete Road runs inland, past two cottages, along the rim of the scarp. The first half mile lies over the ochre coloured Lenham sands, capping the chalk and the hillside is thickly covered by gorse. The attractive view to the southwest is also very interesting geologically in that it overlooks some of the older rocks of the eroded Wealden anticline. Along the foot of the hill lies the Gault clay, with its evidence of brickfield work. The town of Folkestone has largely developed on the next oldest strata, the Lower Greensand beds. These sandstones, which can be easily

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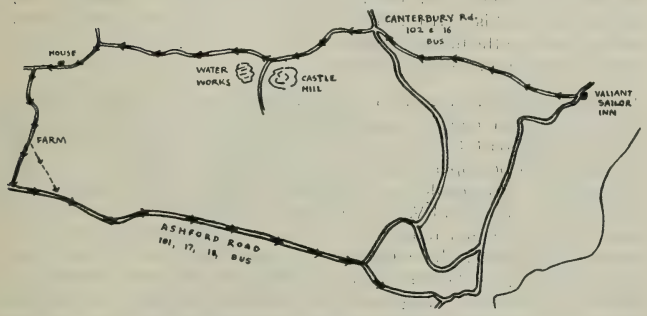

Approximate walking distance 4 miles

examined in the cliffs of the Leas, then face southward over the low flat alluvial levels of Romney Marsh which can be seen in the distance, the sweeping curve of the coastline leading to the cuspate foreland at Dungeness.

On the south side of the road is a large disused quarry, the site of a Jutish burial place. The finds from these graves are preserved in Folkestone Museum on Grace Hill. Before Crete Road crosses the main Canterbury Road the change from Lenham sands to Chalk is reflected in the flora — from the Gorse and Broom to Scabious, Harebell, Eyebright and Milkwort which grow in the banks, and Vipers Bugloss, purple Knapweed and Horned Poppy in the old tank trap. After crossing the main road, Crete Road West passes behind Sugar Loaf — a conical hill — where the ground falls very steeply to Holy Well, a marshy little wood in the valley where the medieval pilgrims are said to have refreshed man and beast. Half a mile further on, Castle Hill, or Caesar's Camp, is reached, a buttress-like hill with earthworks visible on the summit. It is probable that the hill was used as a tribal refuge from very early times, but it is doubtful if it has any valid claim to the name " Caesar's Camp." The earthworks possibly date from the reign of Stephen.

To the west of this hill a road runs steeply down to Folkestone, but it is worth while to continue westward above the town waterworks, situated on the " spring-line " or contact zone of the Chalk and Gault, along the escarpment above Cheriton. There is a wide view to southward all the way. After a mile the road runs diagonally down the hillside past a solitary house called North Cliffe ; on the left lies Danton Farm and the main road to Cheriton and hence back to busier Folkestone is plainly visible.

The hill above Danton Pinch is geologically interesting, and it is possible to get some fossil casts in the old lime pit. Botanically, too, there is much that is worth while. The Cotton Thistle and some Orchids may be found on the hillside, together with Felwort, Century, the sweetly scented Marjoram and wild Thyme.

Bird life to be seen on such a walk in early April will depend largely upon the weather conditions which have prevailed over the Straits of Dover for the past ten days or so. Migration will have started but whether it will be apparent by the different birds seen along this route is uncertain. One could only reasonably hope to note perhaps the arrival of Wheatears and Whitethroats and maybe an increase of Stonechats over their winter numbers. Resident birds will provide the main interest of the walk. The Jackdaw, Magpie, Rook and Carrion Crow will all be busy. The Great Tit and Blue Tit may also be seen. A Kestrel will probably hang in the sky between the road and the sea. Herring Gulls may be numerous, but the Black-headed Gulls will have left the locality. Towards the western end of the walk a Heron or two may well be seen and so also the Green and the Greater Spotted Woodpeckers. If the weather is kind our local resident Thrushes may be both seen and heard, and the brilliant spring plumage of the Yellow Hammer will, if the sun is shining, almost certainly be noticed. If the weather is dull, bird life may well be apparently non-existent. Nevertheless, by looking carefully at the tops of the bushes there may be seen a rather large hawk-like bird crouching untidily on one of them — the cuckoo — with a promise of the spring to come.

Except in a very forward season not many Butterflies or day-flying Moths are to be seen on the Downs in April. Favourable weather will, of course, bring out of hibernation Brimstones, Tortoiseshells and Peacocks, and the three whites not infrequently make their first appearance in this month, but the Green Hairstreak flies later here than in many places and is more likely to be found in May. Except in woods the numerous species of spring moths are rarely to be seen in the day time, but there are a good many kinds of hibernating caterpillars which are now busily making up for the winter's abstinence. More than one sort of Woolly Bear and, very occasionally, a Fox Moth caterpillar may be found in season sunning themselves, while careful search will often reveal night-feeders hiding among low plants such as Bedstraw and Dead Nettle.

M.W.
A.M.
G.H.
J.R.

SEEDLING FORMS AND NATURAL HYBRIDS

EVERYONE has experienced the difficulty of identifying living plants by comparing them with dried specimens or illustrations. The plain fact of the plant being alive makes it look different from the flat dried specimen with its inevitable loss of colour ; while with illustrations, whether photographs, coloured or otherwise, paintings or line drawings, the aim has been to obtain a good representation of the type, but the plant which it is hoped to identify may not be typical, for a number of reasons.

Plants of the same kind grown in shade or full sun may be so much out of character as to look like different species ; the same applies to their growing on good rich soil or under starved conditions, or drawn up through being crowded amongst taller plants. Extremes of heat or cold, wet or dry conditions can affect size of plant, form and colour of leaves and time of flowering ; minerals in soil may produce alterations in petal colour and degree of scent ; in fact, divergencies amongst wild plants are as endless as these among garden plants grown on different soils and with different cultural methods ; and in addition, the number of seedling forms in wild plants are as great as those in garden plants. Notice the variations in Primroses in the same wood, or the range of shades in the common Red Poppy in the same few yards of field.

Differences may thus be accidental or specific ; if the latter, the offspring will breed true to type. I am told that I regard wild plants from a gardener's angle, and to me the only satisfactory proof of a species would be to sow the seeds of the plants under question in varying conditions, and to note the results. This in fact is how nurserymen test their stocks, but with wild plants it would be a formidable, and indeed an impracticable task to carry out systematically.

However, if on clay soils A appears as an upright plant with pale pink flowers, whereas on light sandy soil there is a prostrate form with deep pink flowers, these might be considered as two separate species, but if the seed of the pale pink form when sown on light sandy soil gives rise to the prostrate form with deep pink flowers, and vice versa, then these two forms cannot be separate species but simply fluctuations due to environment. I cannot help feeling that many so called species, especially when varying only slightly from the type, are nothing more than seedling forms, particularly in Wild Roses and Blackberries. In fact, the numerous so-called species of Heartsease (*Viola tricolor*) have been so considered in recent botanical works.

As a contrast, only one species of Bitter Candytuft (*Iberis amara*) is listed, yet two distinct forms grow together, one white, one smaller and tinged with purple, and flowering consistently just in advance of the white.

Another complication of identification is hybridization. Possibly the best known natural hybrid is the False Oxlip (*Primula variabilis*) a cross between Primrose and Cowslip and one of the forerunners of the garden Polyanthus. Systematic botanists agree that hybridization does take place freely in a number of wild plants, Willows, for example, but it is far more frequent than is generally admitted. As with garden plants, there is no obvious reason why certain species that resemble each other in broad characters should not hybridize, always provided that they grow together under the same conditions and the flowers develop at the same time. In this connection the different species of Mallow do not cross because, although they are all summer flowering and resemble each other closely in leaf and flower, their soil requirements are very different so they are not found together.

When collecting the Museum specimens, curious plants have been found that are difficult to identify and can only be hybrids. Perforate and Imperforate St. John's Worts cross so readily that their progeny cannot be disentangled ; Wood and White Violets hybridize to produce plants with small yellowish or greyish flowers, usually scentless ; Dewberries and White Flowered Blackberries also cross freely.

We have also found hybrids between the Field Scabious (*Scabiosa arvensis*) and the Small Scabious (*S. columbaria*). The hybrid has the smooth stems and conspicuous outer florets of the Small Scabious, allied to the larger flowers and deeper colour of the Field Scabious. Another oddity was an Orchid that seemed to be a cross between the Lady Orchid (*Orchis purpurea*) and the Early Purple (*O. mascula*). At Rhodes Minnis, and also at Pluckley, we found specimens that must have been a hybrid between the Goldilocks (*Ranunculus auricomus*) and Meadow Crowfoot (*R. acris*), judging from the time of flowering ; and we have also brought in specimens of Bulbous Buttercup much taller than the type and bearing on the same stem, flowers with reflexed sepals and others with sepals like those of Meadow Crowfoot.

Where woods and fields adjoin, hybrids sometimes occur between Red and White Campions, but more often confusion is caused by the Red throwing an occasional albino form and the White producing pale pink seedlings which, except for their colour, are identical with the parent White Campions.

Ragworts hybridize very freely, and hybrids between Common, Narrow leaved and Water Ragworts (*Senecio jacobea*, *S. teniufolia* and *S. aquatica*) can be found on East Cliff and around the brickfield pond at the end of Cherry Garden Avenue. The Common and Oxford Ragworts (*S. squalidus*) do not appear to cross, but hybrids between Oxford Ragwort and Common Groundsel (*Senecio vulgaris*) are legion. Every possible variation can be found and some very curious looking plants sprang up among the ruins by the Harbour. Some of these were annuals, others biennials and perennials ; there were plants with thick

soft leaves, others with small sparse leaves ; stems were stout and upright or weak and sprawling ; and the flowers were very diverse, some had no ray florets, and the disc florets were comparatively large and colourful or small and inconspicuous, in others the ray florets were broad and numerous, small and scanty, long, short or quilled, with the flowers in loose or tight clusters, long lasting or quickly fading — an astonishing variety of forms. One hybrid between Oxford Ragwort and Sticky Groundsel (*S. viscosa*) breeds true to type and has been given specific rank — *S. Londoniensis*.

Generally speaking, a hybrid is the result of the crossing of two species of the same genus, thus *Lupinus polyphyllus* and *Lupinus arborea* have been crossed to obtain certain strains of garden Lupins. Occasionally, however, it is possible to cross two plants belonging to separate genera, thus producing bigeneric hybrids. Nurserymen have made several bigeneric crosses of Orchids, and I believe that bigeneric hybrids can occur in wild Orchids.

Perhaps the most curious result of natural hybridization has taken place in Grasses. Many of our best known wild Grasses are hybrids, the natives having been crossed with Continental species that were introduced accidentally, or deliberately grown for fodder. In many cases the hybrid has completely suppressed the parent types. An example is the Wall Barley. Centuries ago a native meadow type became crossed with an introduced Continental form that was a troublesome weed of cornfields. Neither of these can be found in Britain today, instead, their offspring is a common and harmless inhabitant of waste land.

VERA F. P. DAY, N.D.H., F.R.H.S.

ANIMALS AND THEIR DISTRIBUTION

BY

JOHN SANKEY

(*Assistant Warden, Juniper Hall Field Centre, Dorking*)

EVERY naturalist knows that some plants and animals can only be found in certain places. Some insects have a distribution which corresponds with the range of their food-plant ; a species of flower may occur only on a certain kind of soil, and so on. Climate may be an important influence on the distribution of some species. I wish to draw attention to the distribution of some species of harvest-spiders (Arachnida Opiliones) which I have studied for a few years. Further information on this subject will be found in references 1, 4, 5 and 6.

Of the twenty-one species of British harvest spiders twenty have been recorded from Kent. Their *vertical* distribution is well marked and they can be divided into three groups thus — (A) seven species which live on the ground in moss, under old logs and at the base of the sward. These species live in this habitat the whole year round. (B) Nine species inhabiting low vegetation, but in their young stages they are found with the first group. (C) Four species which as adults are found on bushes, trees, walls and fences, etc. The young occur with group A. Occassionally an adult from group B is found in the habitat of group C and vica versa, but the species of the three groups show a very marked preference for their usual habitats.

The remaining species falls within group B but it appears to be confined to Ireland (including Eire) and the western seaboard of Britain (2).

This kind of distribution I prefer to call vertical as distinct from *lateral* which indicates the *range* of a species and which tells us little of its habitat.

The lateral distribution of British harvest-spiders also shows some interesting features. Of the twenty Kentish species only one is confined to a single kind of habitat (3, 7). The ground-living *Trogulus tricarinatus* L. is known only from Chalk country (3, 7).

Several species are markedly more abundant in Chalky ground and *Anelasmocephalus cambridgei* (Westwood), *Homalenotus quadridentatus* (Cuvier) and *Nemastoma lugubre* (Müller) all belonging to group A are outstandingly so.

Of the lateral distribution of the remaining species four only call for special comment. *Oligolophus meadii* Cambridge is essentially a harvest-spider of drier habitats than most others ; it is most abundant in open heathy situations on acid soils and on some sand dunes ; it is occasionally taken on the Chalk Downs where the soil is well drained. *O. meadii* is a ground-living species and is not infrequently found in the same habitat as *Opilio saxatilis* (C. L. Koch) which however is decidedly more widespread and abundant. The latter also shows a preference for well drained soils and is characteristic of most sand dunes.

Oligolophus hansenii (Kraepelin) is closely related to the ubiquitous and abundant *O. agrestis* (Meade) and is invariably found in association with it in those places where it occurs ; it is typically a tree-living species favouring pines. *O. hansenii* is therefore characteristic of heathland where this tree occurs.

Odiellus spinosus (Bosc) is the largest of the British harvest-spiders ; it is intimately associated with man-made structures and has never been recorded away from gardens, horticultural land, etc. where it sits on sheds, walls and fences. The young stages occur in close proximity to the places in which the adults are found.

The remaining species have a widespread lateral distribution but are less numerous in built-up areas and in drier heathland and dune vegetation. Sampling shows the majority of them are most abundant in open deciduous woodland.

More records are needed to ascertain the precise lateral distribution and preference habitats of some species, particularly *Trogulus* and *Anelasmocephalus* ; there are abundant opportunities for work in this field in South-East Kent.

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WEATHER AND PLANT OBSERVATIONS. 1953-54

THE warmest November for 13 years, when the temperature was in the 60's on the 28th and 29th and people were bathing on the South Coast, was followed by the warmest December for 80 years — on December 1st it was 10° warmer than on Coronation Day, June 3rd. In spite of this, sunshine was said to be below average in many places, but not in Folkestone. Primroses were out in quantity before Christmas. The mild weather continued until mid-January when persistent icy winds turned to a blizzard and by the beginning of February temperatures were remarkably low and everything frozen hard. In fact when the temperature rose to freezing point it felt positively warm ! Drifts of powdery snow blowing off the hills blocked roads at Faversham and Charing, but there was very little at Folkestone, East Cliff getting the least. Many garden plants had started into untimely growth during the mild autumn and severe losses occurred. The wild plants were not as precocious so did not receive as much damage, except for the fragrant Butterburs which were all killed back.

A curious thing was that flowers picked and brought into the house immediately before the cold spell, lasted an unusually long time in water, for no obvious reason.

Vera F. P. Day, N.D.H., F.R.H.S.

BOTANICAL NOTES

THE fragrant Butterfly Orchid was very abundant this year in the Acrise and Newington areas, and some specimens were very fine. An odd thing was noticed about the blooms gathered in the Newington district. Pollinia were apparently growing from every part of the plant—from petals, lip, spur, bracts, leaves and even from the main stem. A similar condition occurred in the Marsh Orchid found in the same area, but specimens of the Spotted Orchid growing in almost the same spot were quite normal. Insect agency is suggested, but we should like to discover the cause of this phenomenon.

D. G. STANDFORD.

A curious aberration of the Scarlet Poppy (*Papaver rhoeas*) was found on waste land near Stanbury Crescent and brought into the Museum. The petals were alternately red and pure white. Gardeners will recall that it was from a somewhat similar abnormality that the Rev. W. Wilks evolved the beautiful many coloured Shirley Poppies.

V. F. P. DAY, N.D.H., F.R.H.S.

In spite of this Arctic spell, when we had our first botany walk on April 10th, we found the vegetation normal for the time of year, and garden plants well advanced ; by April 25th wallflowers were in bloom and a wonderful show of daffodils was going over.

Easter coincided with the bitter winds of " Blackthorn Winter " (April 19th), but it did not affect the wonderful masses of primroses —extra fine this year.

It was probably a very short spell of very hot weather in May that brought out wild orchids in quantity ; Fly and Butterfly were plentiful and very fine, but Bee orchids were very scarce, and what few there were appeared after the Late Spider. Later in the year broad leaved Helleborines were abundant.

The less said about the cold wet weather of June and July the better ! Farmers and holiday makers have said it first ! On the whole, wild flowers of all kinds were abundant — except wild roses — and grasses were especially fine. A peculiar happening was that unpleasant smells in vegetation were intensified and sweet and aromatic scents suppressed, both in garden and wild plants. Folkestone was one of the few places that had fine weather for August Bank Holiday, but we had almost forgotten what the sun was like when September opened with a welcome warm spell which however did not last, though on the whole the weather was better in September than during the " summer." We had some of the finest weather of the year in October.

One result of the disastrous summer was its affect on bees. Many honey classes at agricultural shows had to be cancelled, and beekeeping was seriously affected. After a night of frost at Easter a neighbour reported seeing at Lyminge a cherry tree from which all the blossom had fallen and every flower held a dead bee.

Some interesting plants were noted during the past season. Wild Columbines were exceptionally fine and numerous, including some pale pink ones ; Long Stalked Geranium at Rhodes Minnis (*Geranium Columbarium*) ; Thick leaved Stonecrop (*Sedum dasyphyllum*) at Hythe and Dungeness ; Summer Snowflake (*Leucojum aestivum*) between Littlestone and Dungeness ; Meadow Rue (*Thalictrum minus*) at Chartham, and cut leaved Elder (*Sambucus niger var. laciniata*) near Ashford and Chartham. During the Grass Foray, the rare Barrer's Saltmarsh Grass (*Glyceria Borreri*) was found in some quantity at Burmarsh. There is reason to believe that Daphne Mezereum still exists in the wild state in the county. Marsh Sow Thistle (*Sonchus palustris*) reported from Stodmarsh.

Pure white primroses and a curiously enlarged form of Wood Anemone, looking rather like a small Japanese Anemone, have been found locally. A red flowered Rubus R. spectabilis — the Salmonberry —from Canada is naturalized in the woods by the railway opposite Beachborough.

A curious find was Prickly Saltwort (*Salsola Kali*) on the tank trap at Sugar Loaf, where it is growing with Sea Cabbage and Horned Poppy a mile and a half from the sea.

VERA F. P. DAY, N.D.H., F.R.H.S.

NESTING SPECIES IN THE AREA OF THE OTTINGE PUMPING STATION OF FOLKESTONE WATERWORKS COMPANY

AS a matter of interest, the species nesting in about 1½ acres, confined to the Folkestone Waterworks Pumping Station at Ottinge, has been noted during the 1954 season. There are three thorn hedges, mainly Hawthorn and Blackthorn, in which 17 species nested, nearly all broods being reared. Magpies took one nest of young Chaffinches but the mother bird rebuilt and brought off a second brood successfully. No fewer than 70 different species were also recorded in this small area. A tabulated list of Breeding Species is as follows :—

Blackbird	— 3 Nests. 2 nests, second brood.
Chaffinch	— 2 Nests. 1 brood reared, 1 taken by Magpies.
Cuckoo	— Reared by Hedge Sparrow (Dunnock).
Greenfinch	— 1 nest, 5 reared.
Jackdaw	— 1 nest, 4 reared.
Skylark	— 1 nest.
Magpies	— 2 nests, all eggs destroyed.
Partridge	— 1 nest, 12 reared.
Robin	— 1 nest, Same site used two years.
Dunnock	— (see Hedge Sparrow). 2 nests, 1 occupied by Cuckoo. 4 eggs in the other, all reared.
House Sparrow	— 3 nests, 16 young, all colour ringed.
Starling	— 1 nest, 2 broods.
Swallow	— 3 nests, 1 nest had 2 broods.
Mistle Thrush	— 3 nests, all broods reared.
Song Thrush	— 2 nests, both broods reared.
Wren	— 2 nests, both broods reared.
Yellow Hammer	— 1 nest, brood reared.

W. A. E. Hill, D.S.M.

ENTOMOLOGICAL NOTES

AS the curtain falls on the year 1954, let us sit back and ponder over the past twelve months. What is our reaction ?

The worst year within living memory to some. The most disappointing year within living memory to others. And yet to some it has been the most memorable. Whatever one's outlook is, it has certainly been the most extraordinary.

Owing to the changes in weather and the low temperatures of the summer months the emergence of many moths have been for the most part delayed, yet some insects have put in an early appearance.

The majority of the Lepidoptera have been scarce yet a few have been above the average in numbers. To some the year has been memorable for the unusual captures which have occurred.

Few immigrants have appeared but on two occasions at the end of May and again in early Autumn there was evidence of an influx of Continental Moths.

When the year is being written up in retrospect on such a large area as that which comes under the aegis of Folkestone and District, it is natural that in order to get a true picture, collaboration must be sought and the writer of these notes has been most fortunate in the very ready

help extended to him by our widely scattered members. Without this help it would have been impossible for him to carry out his task.

It is the general opinion, 1954 has been the worst of a succession of bad years for Butterflies, when even the common species were few and far between.

Polychloros appears to have gone from its usual haunts ; it is hoped for the time being only. *C-album* was rare, as were the other *Vanessids*. Even *Urticae* failed to appear in its usual numbers.

Though reports are rather better from further afield, the " blues " were scarce in East Kent. *Coridon* and *Bellarqus* were almost absent from their usual haunts and *Icarus* was far the most part scarce.

Thecla Rubi was quite rare in the spring and *Betulae* was absent from many of its usual haunts. The *Fritillaries* were not in their usual abundance, even in their usual haunts. In the Wye area one *Euphrosym* was seen once only in the spring and a single small male *Adippe* was all that put in an appearance in September. Certainly a late appearance.

The " browns " were not up to strength, on the other-hand *Aegeria* appears to be still on its advance Eastwards and was reported twice, once from Fagg's Wood, Hamstreet and once from near Kingsnorth.

Croceus was seen at Brook in August and again flying along the beach at Hythe in early October, and two are reported from the Downs behind Folkestone, one on August 21st and the other on September 12th.

The Moths present a somewhat better picture. The season was slow in starting but one or two interesting captures were made in the Ashford area. The first of note was a black *Strataria,* taken in Ashford and this was followed by *Hispidaria* at Brook. A new record for the Brook list. Records show it was a *Hispidaria* year.

Chadnia was common at light in all districts, but *Trimacula* and most other prominents appear to have been scarce.

Deceptoria was taken at Brook on May 30th, to be followed a few hours later by *Atropos.*

It is interesting to record other *Death Heads* at Lympne and Kennington. There was evidently a migration about this period. A bad spell of weather now curtailed activities with light.

During June and early July some interesting captures were made in the Ashford and Wye area. *Spilosoma urticae* was taken for the first time at Brook and it occurred at light in Wye. It also put in an appearance at Willesborough on June 30th. It appears to be spreading.

In June *Agrotera nemoralis* was beaten out of Hornbeam in Ham Street woods. It is over twenty years since this Moth was last

recorded. *Compta* was recorded at Willesborough on June 30th. This is the farthest inland so far recorded for this month since it was discovered at Dover. Three were taken at Folkestone. On June 16th, *Albicolon* was taken at Willesborough, certainly a new record for the Ashford area. *Albula* and *Emutaria* were both flying freely on Romney Marsh in July. In late July and August, *Ditrapezium* appeared at Brook, Wye and Willesborough. All new records.

In the early Autumn, matters improved slightly. September brought a big influx of *Solidaginis* to the southern half of England and one was taken at light at Folkestone. The moth is more of a northern and moorland insect and its occurrence so far south was most unexpected.

All these insects were of a darker shade and were probably part of an immigration from Germany. During the latter part of the month, *Autumnaria* became common at M.V. light. They were practically all males and heavily marked. These also were probably immigrants. *Albipuncta* put in a late appearance over a wide area and these also were of a darker shade than usual. Possibly offsprings of June moths, delayed in emerging by the inclement weather.

Vitellina was taken at Dover on October 7th, and at Folkestone on October 15th and one at Wye. Another presumed immigrant *Obstipata* was recorded from both Folkestone and Dover the latter being taken on November 6th.

Then to cap the seasons takings, *Plusia gutta* was captured in Ashford by Mr. Percy Cue.

This appears to be only the second known specimen to be taken in this County.

It is understood that other rare and interesting species have been taken in the area, but behind the Iron Curtain. They have yet to be officially reported !

It is most unfortunate that our records are of one order only, but until we get enthusiastic workers in other orders into our ranks it is feared this will continue to be the case.

My thanks are due to the following members of the section, who have supplied me with data and so made my task possible.

To Messrs. Morley, Fawnthorp, Scott, Cue, Rudland and Youden, I offer my grateful thanks.

C. A. W. Duffield.

EXCURSIONS

SWEET is the lore that Mother Nature brings, so, during spring and summer days, excursions are made by motor coach to places where knowledge can be gleaned from her works.

Our first excursion was to Chartham Paper Mills, which were established in 1738. Here we saw paper being manufactured by processes very similar to those employed by Ts'ai Lun of China, who, in A.D. 105, invented paper. For years the secret was kept, but by A.D. 770 the art of paper-making had spread to Japan and by the 16th century to Spain.

During the 18th century, there was a considerable increase in the use of paper and the demand led to a search for materials more abundant and more easily converted into this substance. Between 1683 and 1757 René Antoine Ferchault de Reaumur studied wasps and finally decided that the wood filaments used to construct their nests resembled paper. Dr. Shäffer (Saxony) further developed this theory and early in the 19th century Matthias Koops used vegetable fibres for making paper on a large commercial scale, while Nicholas Louis Robert (Paris) constructed the first paper-making machine.

After tea at the Mills, we journeyed to Chilham, where we were met by the Vicar who showed members around the Church of St. Mary. There were many objects of interest but outstanding was the beautiful Chantrey memorial to James Wildman.

The second excursion, a visit to Mary Mason's Yew Tree Farm at Northiam or Norgem as called by the natives, took place on June 19th, one of the few perfect days in 1954. After a run through delightful country we reached the Farm and were welcomed by the proprietress, who led us into the house, which has stood since the days of King Edward III. How beautiful was this spot, while peace and contentment pervaded the place.

Thoughts of the past arose ; of the Danes who moored their yawls in the navigable lagoons of the Rother during the 8th and 9th centuries, of the visits of Queen Elizabeth I to Brickwell House and of smugglers.

In September, members visited Ingleton Wood Nursery which until 1937 was a wood. In that year Mr. Ralph visited the area and decided it was the ideal spot on which to grow hydrangeas. Experiments were made, one being to change the colour of the blossoms. This was successful and today, fine blooms of blue hydrangeas, produced by Messrs. Rochford & Sons, Ltd. are grown in parks and gardens in all parts of the world.

A. J. WRIGHT, F.R.G.S.

AN IMPRESSION OF THE 1954 BRITISH ASSOCIATION MEETING AT OXFORD

THIS year the British Association met at Oxford, a city which presents an arresting picture of medieval ideas and modern problems. The older colleges drowse amid their wonderful green lawns, while an incessant stream of heavy traffic sweeps past their gates. The senorous Latin of the presentation speeches in the Sheldonian Theatre was spoken under the shadow of the atomic threat embodied by Harwell.

The note of urgency and fear for civilisation ran as a warning note through many of the speeches — notably that of the President, Dr. Adrian, and that of Professor Coulson on Sunday evening.

Though there were nearly 4,000 delegates, the programmes went like clockwork ; it is worth noting that the excursions started, and returned, strictly on time ! The same was true of most of the addresses, though some discussions had to be drastically limited ! The mornings were usually given up to serious work in the seventeen sections, which met separately in the Lecture Theatres of the Science Area, but it is impossible in a brief survey to comment on the many original and striking views expressed by the speakers. In the afternoons excursions took place and there was ample opportunity to study various aspects of the countryside.

On Sunday morning many Members attended a special service at Christ Church Cathedral. Each Section arranged a Dinner and Social Evening ; and there was a Garden Party in the grounds of Trinity College, which was graced by bright sunshine. On the Tuesday, 150 delegates were received by the Mayor of Abingdon, and had the privilege of viewing the treasures in the Guildhall.

Delegates came from the far corners of the world — from America, Africa, the East ; they represented diverse interests, many lines of research and they met in an atmosphere of delightful serenity and happy intimacy. Oxford showed to them all a vision of culture and of charm which could only have come from centuries of communion with the great men of all time, whether in Science or in Art.

M. WALTON, F.R.H.S., F.Z.S.

BALANCE SHEET, 1953-1954

Receipts

	£	s.	d.
Balance from Old Year ..	13	1	8
Subscription in memory of late Mr. Walton		5	0
Sale of Books on Shells ..	8	0	0
Donation from Mrs. Walton of Sydenham	1	0	0
Profit from Excursions	15	10	0
Contribution from Ornithological Section	1	1	0
Contribution from Door Box ..		14	3
Donation from Mr. Dunk for Conversatzion Expenses ..		10	0
Annual Subscriptions	72	13	6
Tickets Sold "Ascent of Everest" Lecture	107	18	0
G.P.O. Claim settled re Optic's Damage	3	0	0
	£222	13	5

Expenditure

	£	s.	d.
"Ascent of Everest" Expenses	40	0	1
Profit "Ascent of Everest" Lecture to Agents	67	17	11
Lecturers Fees and O/P Expenses	20	3	1
Affiliation to S.S. Union of Scientific Societies ..		12	6
Book Token	1	1	0
Optic's a/c for Damage ..	3	0	0
Printing and Stationery ..	22	6	2
Postage, Telephone a/c's, Secretaries and Treasurer ..	11	10	6½
Gilbert a/c Posters	3	15	0
Gratuities to Caretakers ..	2	0	0
Lanterns, Screens, Screen Fitments	22	17	8
Flower Show Expenses ..	2	0	0
Conversazion Expenses, including Insurances	11	1	0
Sectional Expenses, Entomological	1	11	9
,, ,, Botanical	1	2	3½
Cheque Book		5	0
Bank Charges		10	6
Carriage		1	11
	211	16	5
Balance in hand	11	17	0
	£222	13	5

RESIGNATIONS AND NEW MEMBERS

RESIGNATIONS

Ball, Miss
Bolland, Miss
Britten, Mrs.
Brittain, Miss
Giles, F. Mr.
Hall, W. G. Miss
Hogbin, The Misses
Goodbourne, C. W. Mr.
Prebble, Mr.
Salt, K. Mr.

CADETS

Eastwell, B. Master
Vernol, M. Master
Williams, Ian Master
Williams, Carl Master

NEW MEMBERS

Allen, R. A., Mrs.
11, Alexandra Gardens.
Allman, C., Mr. & Mrs.
12, Avereng Road.
Bell, Mrs.
41, Wear Bay Crescent.
Billinghurst, Miss
267, Cheriton Road.
Clifford, E. C. Mr. & Mrs.
21, Segrave Road.
Cockell, A. J. E., Mr.
46, Park Road, Hythe.
Denham, Mrs.
Flat A, 39, Grimston Ave.
Fowler, K., Mrs.
17, Cheriton Place.
Fynmore, Miss
3, Audley Road.
Gyngell, E. L., Mr. & Mrs.
18, Wear Bay Road.
Hughes, M., Miss
Cravenhurst,
3, Trinity Crescent.
Johnson, E. D., Miss
Flat, 205, Majestic Hotel.
Johnson, W. M., Mr.
Flat 205, Majestic Hotel.
Main, L., Miss
10, Wellington Terrace,
Sandgate.
Manser, G. E., Mr.
46, Tanner's Hill Gardens,
Hythe.
Morgan, J. H., Miss
" Seacombe,"
Sandgate Hill.
Musgrave, Miss
" Sealands,"
Seabrook Road.
Preston, M., Mrs.
6, Shaftesbury Avenue,
Cheriton.
Quinn, E., Miss
89, Royal Military Avenue,
Cheriton.
Relton, S. E., Mr. & Mrs.
Flat B, 100 Bouverie Rd. W.
Reynolds, D. H., Mr. & Mrs.
7, Godwyn Road.
Roy, R. B., Miss
2, The Priory, The Bayle.
Rowlands, C., Mr. & Mrs.
Heslewell, Meadway,
River-in-Dover, Dover.
Sayers, C., Mr.
16, Trevarra Court,
Bouverie Road West.
Skinner, E., Miss
Flat 3, 11, Radnor Park W.
Skinner, Miss
3, Shorncliffe Road.
Washer, B., Miss
2, Limes Road.
Wise, F. K., Mr.
31, Alexandra Street.

CADET

Dacombe V. (Master)
27, Downs Road.

MESSAGE FROM THE PRESIDENT-ELECT

DR. RUSSELL J. REYNOLDS, C.B.E., M.B., B.S. (LONDON), F.R.C.P. (LONDON), F.F.R., D.M.R.E., F.A.C.R. (HON.), M.I.E.E.

Mr. Frank Edwards, General Secretary and Treasurer of the South-Eastern Union, has written to me that Sir Harold Spencer Jones, owing to public duties, is unable to preside at the Sixtieth Annual Congress of the South-Eastern Union of Scientific Societies in Folkestone this year and has invited me to serve in his place.

It gives me great pleasure to accept the office of President, especially as I had the honour of following Sir Harold as President of the Brighton and Hove Natural History Society and holding that office during the Centenary Celebrations last year.

I would like to add my note of greeting for the success of the coming Congress which I feel confident is already assured. May we have the best of weather and everything to favour its success.

RUSSELL J. REYNOLDS.

MESSAGE FROM THE ASTRONOMER ROYAL

(SIR HAROLD SPENCER JONES, M.A., SC.D., F.R.S.)

Having accepted the invitation to preside over the Congress of the South-Eastern Union of Scientific Societies in Folkestone, I regret that it will not be possible for me to be present as I have to leave for America on April 9th. As a public servant my plans, so long as I hold the office of Astronomer Royal, are subject to the over-riding claims of official duties.

Astronomy owes much to the observations of many keen and skilled amateur observers. In the observation of the changes in brightness of variable stars, in the study of lunar and planetary detail, in searching for comets, in watching for meteors, in looking out for new stars, they have done, and still continue to do, most useful work. The era of very large telescopes has not done away with the need for the contributions which the devoted band of amateurs are making. Astronomy still requires them.

The Scientific and Natural History Societies which are represented in the Congress are in very large measure societies which band together amateur naturalists. In natural history, just as in astronomy, there is the need for the various types of observations that the amateur can make. As a former President of the Brighton and Hove Natural History Society I have learnt at first hand of the keenness of the amateurs in this field and of the value of their observations.

I hope that the Congress will be fruitful in its results and that the various societies will be encouraged to continue their useful and valuable work.

H. SPENCER JONES.

CONGRESS LOCAL ORGANISING COMMITTEE

Hon. Officers :

General Secretary	Mr. T. W. Birch, M.Sc., M.Ed.
Excursions	Miss A. J. Wright, F.R.G.S.
Exhibition	Mrs. M. H. Walton, F.R.H.S., F.Z.S.
Publicity	Mr. R. Howarth, A.L.A.
Treasurer	Mr. V. C. Burns.

Members :

Mr. G. Cooper
Miss V. Day, N.D.H., F.R.H.S.
Mr. J. T. Drew
Mr. J. Dunk
Miss O. B. Grover
Mr. D. Marshall, Dip.inst.p.a.
Mr. A. M. Morley, M.A., F.R.E.S.
Mr. W. S. Nevin
Dr. E. Scott, D.S.O.

EXHIBITORS :

British Railways	Model of Folkestone Warren illustrating the engineering problems.
National Coal Board	Working model with geological data from Solway Firth borings.
Pfizers Ltd.	Anti-biotics.
F. J. Parsons (Kent Newspapers) Ltd.	Colour printing.
The Manor Office, Folkestone	Maps on loan by courtesy of Lord Radnor.
Folkestone Borough Engineer's Dept.	Destruction of groyne timbers.
Folkestone Borough Parks Dept.	Elm disease.
Folkestone Waterworks Company	Models and maps demonstrating the watershed.
Maidstone Museum	The Jutish relics from Lyminge on loan.
Folkestone Aquarist Society	Tropical and cold water tanks.
Kent Bee-Keepers' Association	Observation hive.
Mr. R. A. W. Chambers, A.T.D.	Drawings of Kentish Orchids.
Mr. T. Edmondson	Photographs of British trees.
Mr. D. Harle	Drawings.
Mr. T. W. Birch	Home-made wines.
Folkestone Natural History Soc.	Exhibits by Botanical, Entomological, and Ornithological Sections.

EXCURSIONS :

Thursday, 14th April :

2.30 p.m. Walk around Folkestone.

Friday, 15th April :

(*a*) 2 p.m. Excursion to Warren (Geology).

(*b*) 2 p.m. Excursion to Wye College Church, and Museum (Archaeology and Zoology).

(*c*) 2 p.m. Excursion to Westwell, Hothfield and Little Chart (Botany and Entomology).

Saturday, 16th April :

(*a*) 1.30 p.m. Excursion to Stour Valley (Geology).

(*b*) 1.30 p.m. Excursion to Newingreen, Romney, Warren, Dungeness (Botany and Entomology).

(*c*) 2 p.m. Excursion to Dungeness Bird Observatory (Limited to first 20 applicants).

Sunday, 17th April :

(*a*) 2.45 p.m. Walk around Corporation Greenhouses and Gardens.

(*b*) 2.30 p.m. Excursion to Studfall Castle and Westenhanger Manor (Archaeology).

F. J. Parsons (Kent Newspapers) Ltd., The Bayle, Folkestone.

Principal Officers of

Folkestone Natural History Society

(Founded April 4th, 1868)

1954

President :

Mr. T. W. Birch, M.Sc., M.Ed.
24, Cherry Garden Avenue, Folkestone.

Hon. General Secretary :

Miss Vera F. P. Day, N.D.H., F.R.H.S.
18, Wear Bay Crescent, Folkestone.

Hon. Assistant Secretary :

Miss A. J. Wright, F.R.G.S.
22, St. John's Street, Folkestone.

Hon. Treasurer :

Mr. J. T. Drew
16, Cherry Garden Lane, Folkestone.